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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,563	05/13/2004	Roy Gibbs I	81098893 / FMC 1748 PUSP	3562
28395 7590 08/22/2008 BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			EXAMINER CULBERT, ROBERTS P	
			ART UNIT 1792	PAPER NUMBER
			MAIL DATE 08/22/2008	DELIVERY MODE PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROY I. GIBBS
and GARY ZALESKI

Appeal 2008-3619
Application 10/709,563
Technology Center 1700

Decided: August 22, 2008

Before EDWARD C. KIMLIN, TERRY J. OWENS, and
PETER F. KRATZ, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-12. Claims 13-20 have been withdrawn from consideration. Claim 1 is illustrative:

1. A method for producing a mold tool to achieve a reduced gloss appearance on a surface of a polymeric component produced with the tool, the method comprising:

masking a portion of a surface of the tool with a plurality of characters arranged in a character pattern; and

applying a caustic material to the tool surface, thereby removing material from an unmasked portion of the tool surface and leaving the masked portion raised above the unmasked portion and forming a tool surface pattern generally matching the character pattern, the tool surface pattern including a plurality of raised portions, each of the raised portions having a maximum width, the average maximum width of the raised portions being less than 350 μm , the tool surface pattern thereby providing a reduced gloss appearance on a corresponding surface of a polymeric component produced with the tool.

The Examiner relies upon the following references as evidence of obviousness:

Anderson	3,656,951	Apr. 18, 1972
Rheingold	3,719,536	Mar. 6, 1973
Peterson	4,020,762	May 3, 1977
Zuel	4,944,986	July 31, 1990
Laurence	5,596,912	Jan. 28, 1997
Luetgert	6,988,342 B2	Jan. 24, 2006
Martelli	US 2004/0071936 A1	Apr. 15, 2004

Michael Köhler, *Etching in Microsystem Technology*, Wiley-VCH, 13-17 and 116-117 (1999).

Appellants' claimed invention is directed to a method of making a mold tool for preparing polymeric components having reduced gloss. The method entails masking a portion of a surface of the tool in a character pattern, removing material from the unmasked portion of the tool surface with a caustic material to form a tool surface pattern that generally matches the character pattern. The tool surface pattern has a plurality of raised portions which have an average maximum width of less than 350 microns. According to Appellants, the raised portions of the tool surface having the

recited maximum width provide “a reduced gloss appearance on a corresponding surface of a polymeric component produced with the tool” (Br. 3, first para.).

The appealed claims stand rejected under 35 U.S.C. § 103(a) as follows:

- a) claims 1-6 over Martelli in view of Köhler and Zuel,
- b) claims 6 and 7 over the combination of references stated in (a) above further in view of Luetgert,
- c) claim 8 over the combination of references stated in (b) above further in view of Anderson,
- d) claim 9 over the combination of references stated in (b) above further in view of Peterson,
- e) claim 10 over the combination of references stated in (b) above further in view of Rheingold, and
- f) claims 11 and 12 over the combination of references stated in (a) above further in view of Laurence.

With the exception of claim 6, Appellants do not present a separate substantive argument for the dependent claims on appeal. Accordingly, with the noted exception, all the appealed claims stand or fall together with claim 1.

We have thoroughly reviewed each of Appellants’ arguments for patentability. However, we are in complete agreement with the Examiner’s reasoned analysis and application of the prior art, as well as his cogent and thorough disposition of the arguments raised by Appellants. Accordingly, we will adopt the Examiner’s reasoning as our own in sustaining the rejections of record, and we add the following for emphasis only.

Appellants do not dispute the Examiner's factual determination that Martelli, like Appellants, discloses a method for preparing a mold tool for making a polymeric component having reduced gloss on its surface by masking a portion of the tool surface with a plurality of characters arranged in a character pattern, and removing unmasked portions of the tool surface by applying an etchant material. The etched surface of Martelli's mold tool results in a surface pattern that, like Appellants' tool surface, generally matches the character pattern. When the patterned tool surface of Martelli is used to mold a polymeric component, a polymeric component with reduced gloss is obtained.

As recognized by the Examiner, Martelli does not expressly teach the presently claimed maximum width of the raised portions of the tool surface pattern being, on average, less than 350 microns. However, Martelli provides the teaching that "[t]he width of depressions in any pattern, or any combination of them, can vary as needed [e.g.], the width of depressions that define lands can be relatively uniform for the mold's surface or can be varied to achieve any aesthetic appearance" (para. 0031). Consequently, we find that it would have been prima facie obvious for one of ordinary skill in the art to resort to a routine experimentation to determine the particular width of the raised portions of the tool surface which produces the desired effect on the surface of the prepared polymeric component. It is well settled that when patentability is predicated upon a change in a condition of a prior art element, such as a change in size, configuration, concentration, etc., the burden is on the Applicant to demonstrate that the change produces an unexpected result. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990) and *In re Aller*, 220 F.2d 454, 456 (CCPA 1955).

Furthermore, as set forth by the Examiner, Zuel specifically teaches that in forming a light diffusion effect on a surface, raised portions may have a maximum width of 10-120 microns, a range directly within the claimed range of less than 350 microns. Accordingly, based on the Zuel disclosure, we agree with the Examiner that it would have been obvious for one of ordinary skill in the art to provide a surface pattern of raised portions having a maximum width of less than 350 microns on the mold tool of Martelli for making a polymeric component having an anti-reflective surface with reduced gloss. We note Appellants advance no argument, let alone the requisite objective evidence, that establishes that mold tools within the scope of the appealed claims, having raised portions with a maximum width of less than 350 microns, produce unexpected results.

Appellants submit that “[t]he treatments described by Zuel are applied directly to the anti-reflective surface itself [while] [i]n contrast to this, Martelli describes treatment of a mold surface that will later be used to produce an anti-reflective component” (Br. 4, last para.). Appellants maintain that “[t]he blow molded plastic containers described in Martelli are not candidates for the direct application of surface treatments as described in Zuel” (Br. 5, second para.).

This argument, however, misses the thrust of the Examiner’s rejection. The Examiner’s conclusion of obviousness is not based upon the direct application of surface treatments to the plastic containers of Martelli. The Examiner explains that “Zuel is only cited to teach that the width dimension for a frosted or etched glass appearance is well known to be in the micron range . . . [and that] Zuel is simply further cited as an example showing the size range and spacing of depressions and lands providing the

aesthetic appearance such as frosted or etched glass is well known to vary in the micron range recited by applicant”. (Ans. 8, second para.). In light of Martelli’s teaching that the width of the pattern can vary as needed to achieve any aesthetic appearance, we agree with the Examiner that one of ordinary skill in the art would have found it obvious to employ a width disclosed by Zuel, and presently claimed, to achieve a polymeric component having a surface with reduced gloss.

Regarding separately argued claim 6 which recites “providing the tool surface with a second pattern different from the tool surface pattern,” we find that Martelli’s disclosure of “any pattern, or any combination of them” would have suggested forming a mold tool having different patterns thereon (*see* Martelli at [0031]). Indeed, we hardly consider Martelli’s teaching necessary to find that it would have been obvious for one of ordinary skill in the art to form more than one different pattern on the mold tool for preparing any number of different design effects on the surface of the polymeric component molded by the tool. Furthermore, Luetgert discloses that “[i]f multiple pattern transfers are used, the transfers must be aligned and joined together” (col. 7, ll. 51-52). We reject Appellants’ argument that Luetgert’s discussion of multiple pattern transfers presumably refers to transferring the same pattern “and that is why it is important to ‘align and join’ them together” (Br. 7, first para.). One of ordinary skill in the art would also align and join different patterns to produce the desired effect.

In conclusion, based on the foregoing and the reasons well stated by the Examiner, the Examiner’s decision rejecting the appealed claims is affirmed.

Appeal 2008-3619
Application 10/709,563

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

Ls/Cam

BROOKS KUSHMAN P.C./FGTL
1000 TOWN CENTER
22ND FLOOR
SOUTHFIELD MI 48075-1238